contacting a ~~fluid~~ monoolefin stream comprising one or more monoolefins ~~and conjugated olefins~~ with a Diels-Alder dienophile to ~~provide a fluid comprising a Diels-Alder adduct and monoolefins;~~ convert one or more conjugated olefins present in the monoolefin stream to a Diels-Alder adduct;

and removing the Diels-Alder adduct from the monoolefin stream, thereby purifying the monoolefin stream such that it comprises ~~recovering a resulting monoolefin-containing fluid comprising~~ less than about 50 parts per million (ppm) conjugated olefins.

2. Cancelled.

5. (Amended) A process according to claim 1 wherein said conjugated olefins comprise at least about ~~about~~ 4 carbon atoms per molecule and no more than about 10 carbon atoms per molecule.

12. (Amended) A process according to claim 1 wherein said ~~resulting monoolefin-containing fluid~~ purified monoolefin stream comprises less than about 25 parts per million conjugated olefins.

13. (Amended) A process according to claim 1 wherein said ~~resulting monoolefin-containing fluid~~ purified monoolefin stream comprises less than about 10 parts per million conjugated olefins.

14. Cancelled.

15. (Amended) A process according to claim ~~14~~ 1 wherein said ~~separating means~~ removing is selected from the group consisting of distillation, adsorption, membrane separation, and combinations thereof.

16. (Amended) A process according to claim 1 wherein said ~~recovering~~ removing is conducted using reactive distillation.

Please add new claims 19, 20, 21, and 22 as follows.

19. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:

$R^1R^2C = CR^3R^4$ where

$R^1$ = H, $C(=O)OR^5$,$C(=O)R^6$,$C(=O)NR^7R^8$, CN, $C_1$ to $C_{30}$ alkyl, and aromatic,

$R^2$ = H, $C(=O)OR^5$,$C(=O)R^6$,$C(=O)NR^7R^8$, CN, $C_1$ to $C_{30}$ alkyl, and aromatic,

$R^3$ = H, $C(=O)OR^5$,$C(=O)R^6$,$C(=O)NR^7R^8$, CN, $C_1$ to $C_{30}$ alkyl, and aromatic,

$R^4$ = H, $C(=O)OR^5$,$C(=O)R^6$,$C(=O)NR^7R^8$, CN, $C_1$ to $C_{30}$ alkyl, and aromatic,

$R^5$ = $C_1$ to $C_{10}$ alkyl, aromatic, and $(H)C=CH_2$,

$R^6$ = $C_1$ to $C_{10}$ alkyl, aromatic, and $(H)C=CH_2$,

$R^7$ = $C_1$ to $C_{10}$ alkyl, aromatic, and

$R^8$ = $C_1$ to $C_{10}$ alkyl, and aromatic.

20. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:

$R^1C \equiv CR^2$ where

$R^1$ = H, $C(=O)OR^3$,$C(=O)R^4$,$C(=O)NR^5R^6$, CN, $C_1$ to $C_{10}$ alkyl, and aromatic,

$R^2$ = H, $C(=O)OR^3$,$C(=O)R^4$,$C(=O)NR^5R^6$, CN, $C_1$ to $C_{10}$ alkyl, and aromatic

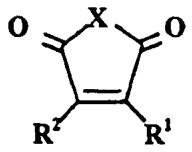
$R^3$ = $C_1$ to $C_{10}$ alkyl, and aromatic,

$R^4$ = H, $C_1$ to $C_{10}$ alkyl, and aromatic,

$R^5$ = $C_1$ to $C_{10}$ alkyl, and aromatic, and

$R^6$ = $C_1$ to $C_{10}$ alkyl, and aromatic.

21. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:

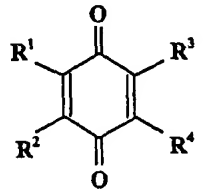


where X = O, N, and S,

$R^1$ = H, $C_1$ to $C_{10}$ alkyl, and aromatic, and

$R^2$ = H, $C_1$ to $C_{10}$ alkyl, and aromatic.

22. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:



where

$R^1$ = H, $C_1$ to $C_{10}$ alkyl, and aromatic, and $(H)C=CH_2$,

$R^2$ = H, $C_1$ to $C_{10}$ alkyl, aromatic, and $(H)C=CH_2$,

$R^3$ = H, $C_1$ to $C_{10}$ alkyl, aromatic, and $(H)C=CH_2$, and

$R^4$ = H, $C_1$ to $C_{10}$ alkyl, aromatic, and $(H)C=CH_2$.